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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,590	08/01/2003	Roland Dilley	H0004601	4316

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EXAMINER

MCKINNON, TERRELL L

ART UNIT PAPER NUMBER

3743

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

**Application No.**

10/632,590

**Applicant(s)**

DILLEY ET AL.

**Examiner**

Terrell L Mckinnon

**Art Unit**

3743

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Response to Amendment***

Receipt is acknowledged of applicant's amendment filed August 9, 2004. Claims 1-10 are pending and an action on the merits is as follows.

Applicant's arguments with respect to claims 1-10 have been considered but are moot in view of the new ground of rejection.

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Uehara (U.S. 6,340,052) in view of Frey et al (U.S. 2,768,814).

Uehara discloses a heat exchanger comprising:

- a core member (3) including a plurality of hot-side fluid or gas transport passages for accommodating passage of a first fluid or gas therein;
- a plurality of cold-side (2) fluid or gas transport passages for accommodating passage of a second fluid or gas therein that is provided at a temperature less than that of the first fluid or gas;
- the hot-side and cold-side fluid or gas transport passages being in contact with one another to permit conductive heat transfer;

Art Unit: 3743

- manifolds (4 and 5) connected to ends of the hot-side and cold-side fluid or gas passages to direct and receive the first and second fluids or gases into and from the respective hot-side and cold-side fluid or gas transport passages;
- a flow director (7) integral to one of the manifolds to change the flow direction of the first or second fluid or gas passing therethrough (Fig. 4);

wherein the flow director allows for flow of the fluid or gas along a centerline of an opening of the manifold and comprises at least two members disposed at non-orthogonal angles to the centerline;

- the flow director comprises a length and a width and wherein the at least two members disposed at non-orthogonal angles to the centerline direct the fluid or gas substantially lengthwise in the manifold (Fig. 4);
- the at least two members act to reduce localized stress concentrations of the manifold proximate to the opening;
- the manifold comprises two or more openings wherein each opening receives one of the first and second fluids or gases into the heat exchanger or allows one of the first and second fluids or gases to exit the heat exchanger (Fig. 5); and
- the manifold comprising the flow director comprises a dividing wall to divide the manifold into two fluid or gas portions.

Uehara's invention fails to disclose the flow director being integral to the manifold via welding; and one or more members of the flow diverter extend from the dividing plate to an opposing wall of the manifold.

3. However, Frey teaches flow diverters within heat exchanger manifolds, wherein and one or more members of the flow diverter extend from the dividing plate to an opposing wall of the manifold (Figs. 8-22).

Given the teachings of Frey, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the heat exchanger of Uehara with a one or more members of the flow diverter extending from the dividing plate to an opposing wall of the manifold; and the flow director being integral to the manifold via welding.

Doing so would provide an alternate means of constructing the guide members to better serve in transferring and conducting heat through the heat exchanger.

### ***Response to Arguments***

Applicant's arguments filed August 9, 2004 have been fully considered but they are not persuasive.

Applicant states, "claim 1 now recites that the flow director allows for flow of the fluid or gas along a centerline of an opening of the manifold. The conical distribution plates of Miller do not allow for such flow. Thus, Applicant respectfully submits that Miller does not disclose the subject matter of claim 1. Further, none of the cited references, alone or in combination, teach such an arrangement."

Applicant's arguments are moot in view of Uehara's invention as modified by Frey, as stated above.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following references are cited for disclosing related limitations of the applicant's claimed and disclosed invention. Weber and Nasser.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Terrell L Mckinnon whose telephone number is 703-305-

Art Unit: 3743

0059. The examiner can normally be reached on Monday -Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on 308-0101. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Terrell L McKinnon  
Primary Examiner  
Art Unit 3743  
November 1, 2004